WMATA Largo/Morgan Stations and Parking Facilities

PRINCE GEORGE'S COUNTY, MD

FIRM
Clark Construction

CONTRACT VALUE
$94.5 million

COMPLETION DATE
Winter 2004

OWNER
WMATA

PARKING SPACES
2,100

This project was part of WMATA's largest construction program in its history ($434 million). The project included two new Metro station complexes, including the two stations and platforms; a twin, multi-level, 2,100 vehicle parking structure; and a 10,000 SF day-care center for Metro's 3.1 mile extension of the Blue Line light rail commuter line in suburban Prince George's County, Maryland.

Clark was the managing partner of the general contracting joint venture of Clark-Kiewit Largo A Joint Venture, that was responsible for the design and construction of the new Largo Station facilities and the new Morgan Station. The HSMM-STV joint venture was responsible for designing the new facilities. As the managing design partner in the joint venture, HSMM was responsible for overseeing and directing the design effort, including all subconsultants.

The elevated Largo Town Center Station and train platforms were built using pre-cast concrete construction. The Largo structures were designed and built under an extremely aggressive completion schedule of only 26 months, with final completion of both stations in 2004.

Union Station Parking Garage Expansion

WASHINGTON, DC

FIRM
Clark Construction

CONTRACT VALUE
$31 million

COMPLETION DATE
June 2006

OWNER
Union Station Redevelopment Corporation

PARKING SPACES
1,000

The Union Station Parking Garage Expansion consists of three major components that increased the capacity of the current parking structure by over 1000 spaces and approximately 321,000 square feet on five levels. The project included development of an attractive and architecturally complementary exterior facade on H Street, establishment of a parking access and revenue control system, and integration of the garage's bus and rental car operations into a new functional layout. Additionally Clark was contracted to restore the existing parking structure.

The project is located in northeast Washington, DC on H Street between North Capitol and 4th Streets, adjacent to the H Street Bridge. The garage expansion was constructed atop the railroad platform for the AMTRAK and MARC trains as well as the Red Line Metro Tunnel at Union Station. There are receiving platforms for 18 active rail lines directly below the structure, which presented a coordination and scheduling challenge.

WMATA Franconia-Springfield Parking Garage

SPRINGFIELD, VA

FIRM
Clark Construction

CONTRACT VALUE
$23.2 million

COMPLETION DATE
January 1996

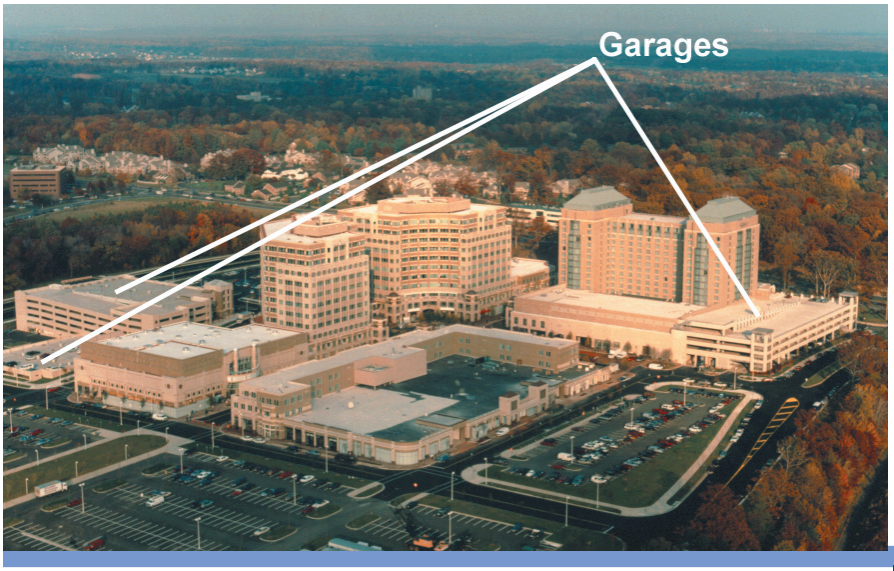
OWNER
WMATA

PARKING SPACES
3,900

This 1,150,000 SF, 3,900 space parking facility adjacent to the Franconia-Springfield Metro Station in Springfield, Virginia is made of precast concrete and at WMATA's request, the architect designed the garage to last an exceptionally long time. Building such a durable structure required extra measures, such as adding a concrete sealer to all floors, curbs, gutters, and sidewalks. Extra-long piles and additional tie backs further strengthen 11,100 foot-long wall constructed to support portions of the site around the garage. The garage includes five entrance/exit booths, three elevators, and five stairways.

Reston Town Center NW Parking Garage

RESTON, VA



FIRM
Clark Construction

CONTRACT VALUE
$4 million

COMPLETION DATE
October 1992

OWNER
Structure Tone

PARKING SPACES
1,000

This six-level, 255,000 SF precast parking garage was constructed adjacent to the "new downtown" mixed-use complex in Reston. The entire complex, including a 14 story hotel; two 11 story office buildings; a ten-theater cinema complex; and a three-story retail and office building, total 1,350,000 SF, was completed by Clark Construction. Originally, Reston Town Center contained two parking garages totalling over 1,700 spaces, both of which were precast structures. This new NW parking structure is an addition to one of the previously built structures. It also is a precast structure, providing space for an additional 1,000 cars to serve the retail and office establishments in the area.

Washingtonian Center Parking Garage

GAITHERSBURG, MD

FIRM
Clark Construction

CONTRACT VALUE
$5.3 million

COMPLETION DATE
June 1998

OWNER
The Peterson Companies

PARKING SPACES
580

This 4 story, 580 space precast structure is part of a major retail and dining complex being developed by Washingtonian Associates, LLC. The project was delivered in two-phases. Phase I involved the construction of the 210,000 SF parking facility and Phase II included the completion of retail space on the structure's ground level.

The facade features an exterior insulation finish system (EIFS), as well as brick and precast. The retail level is highlighted by a storefront window system and ornamental metal detailing. The retail/dining complex is connected to other retail buildings by an overhead pedestrian bridge.

BWI Central Parking Garage

LINTHICUM, MD

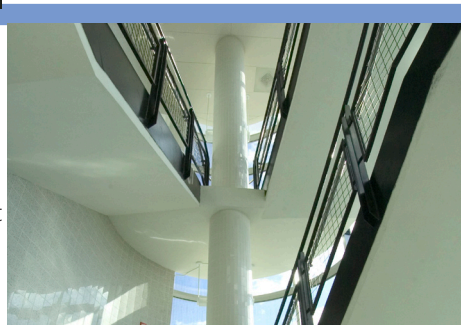
FIRM
Clark Construction

CONTRACT VALUE
$141 million

COMPLETION DATE
February 2004

OWNER
Maryland Aviation Administration

PARKING SPACES
8,400



Clark provided construction services for the new central garage to BWI Airport, one of the busiest airports in the country. This 3 million square foot cast-in-place concrete parking garage provides 8,400 parking spaces to airport riders.

Designed by Parsons Brinckerhoff Quade and Douglas of Baltimore, the garage tripled the number of spaces close to the airport terminal and included an automated Smart Park system to direct motorists to available spaces. BWI is the first airport in the U.S. to implement this high-tech parking guidance system, which uses a network of sensors and lights suspended over parking spaces, to indicate to a driver which spaces are available.

BWI Airport - Parking Garage Expansion

ANNE ARUNDEL COUNTY, MD

FIRM
Clark Construction

CONTRACT VALUE
$35 million

COMPLETION DATE
February 1998

OWNER
Maryland Aviation Administration

PARKING SPACES
2,900

This new 898,000 SF, post tensioned concrete parking garage expansion increased the garage's current capacity by 2,900 parking spaces. The expansion added five new levels of parking, and two floors were constructed above the existing four-level facility. Clark also built a pedestrian bridge connecting the garage to the main terminal and an exit ramp which ties into the new elevated road. In addition, new elevators were added, existing elevators upgraded, and moving walkways installed. The project was completed in phases to keep as many parking spaces open as possible. Clark turned over a 150,000 SF portion of the expansion one month early, which provided approximately 400 new spaces for travelers. Clark was extremely careful because the garage remained in use during the entire 21 month duration of the job. Public safety was a major concern due to the continuous vehicular and pedestrian traffic in and around the parking garage, as well as several rental car businesses that operated out of the facility.

Johns Hopkins University McElderry Street Garage

BALTIMORE, MD

FIRM
Clark Construction

CONTRACT VALUE
$17 million

COMPLETION DATE
June 1990

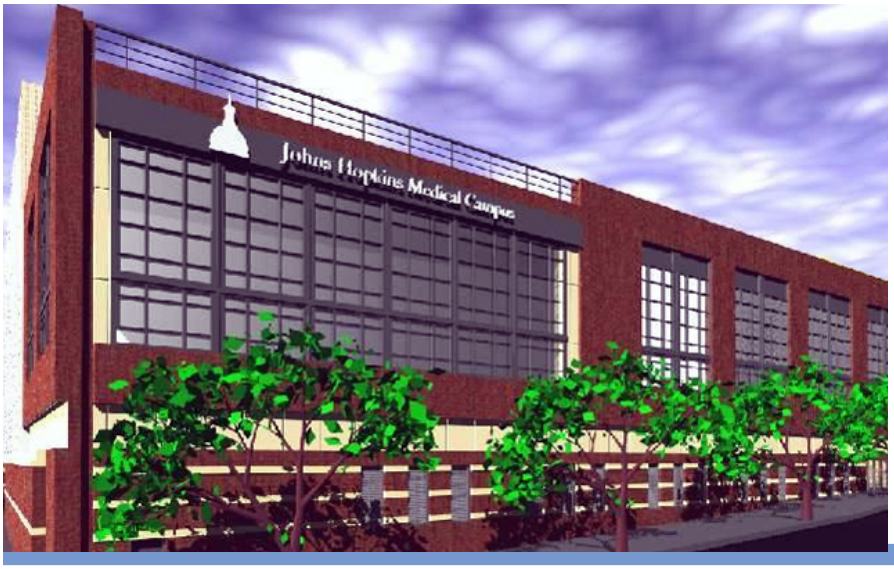
OWNER
The Johns Hopkins Hospital

PARKING SPACES
1,400

This 1,400 car parking facility is located at The Johns Hopkins Hospital Complex on McElderry Street. The structure is 4 stories below grade and 4 stories above, with a total of 395,000 SF.

Johns Hopkins University - South of Orleans Garage

BALTIMORE, MD



FIRM
Clark Construction

CONTRACT VALUE
$52 million

COMPLETION DATE
November 2006

OWNER
The John Hopkins Hospital

PARKING SPACES
2,200

This project was Phase I of the South of Orleans Expansion project for The Johns Hopkins University School of Medicine at 1795 Orleans Street in East Baltimore. This multi-use facility includes a 2200 space parking structure and loading dock, as well as the core and shell construction of a kitchen and power plant. The façade incorporates cast-in-place concrete and masonry, which is supported by a structural steel frame and highlighted by a small curtain wall. This project allows Johns Hopkins to demolish the Broadway Garage to make way for the new Children's & Maternal Hospital and Cardiovascular & Critical Care Tower.

414 Water Street Parking Garage

BALTIMORE, MD

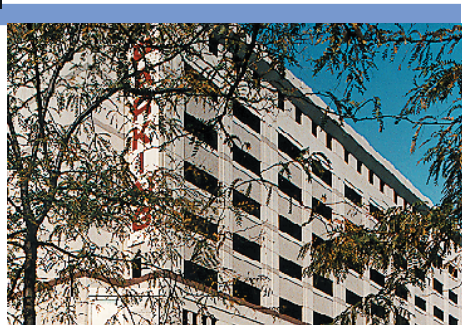
FIRM
Clark Construction

CONTRACT VALUE
$10 million

COMPLETION DATE
February 1991

OWNER
LaSalle Partners Management

PARKING SPACES
1,125



This 11 story, 400,000 SF above-grade parking structure is one of the largest parking facilities in Baltimore. This structure was designed to include a future office tower to be placed on top. 414 Water Street provides 1,125 parking spaces for downtown Baltimore. The structure is post-tensioned cast-in-place concrete resting on 51 drilled caissons that are approximately 80 feet deep. The caisson foundation provides the necessary support for the 17 story office tower to be added at a later date. The building systems have been installed to support the future office tower, too. Three elevators service the garage with provisions made to add more shaft space for tenant floors. Mechanical and electrical equipment capable of supporting the office space replaced the standard systems typical of other parking structures. The facade consists of precast architectural panels and arches with classic styles in keeping with the historic surroundings. Working within the congested downtown site proved to be a significant challenge. Expert project management skills were required to coordinate the work of the various trades and their related deliveries to the tight site. Despite these challenges, this project was completed on time and within budget.

Vienna Metro Commuter Rail Station

VIENNA, VA

FIRM
Walker Parking Consultants

CONTRACT VALUE
$19 million

COMPLETION DATE
January 2001

OWNER
WMATA

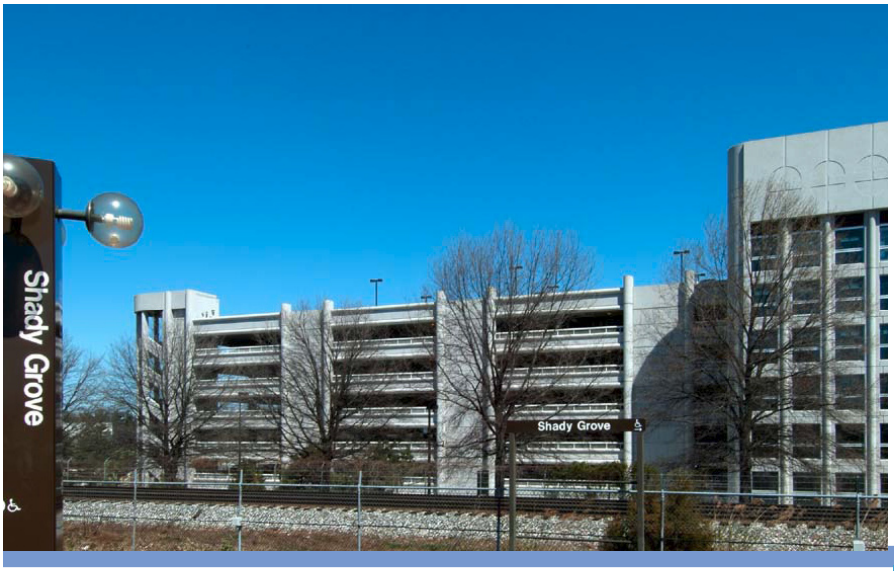
PARKING SPACES
2,285

The Vienna Metrorail Station anchors the west end of the orange line commuter rail from Washington, DC. The addition of this 2,200 car, 6 level parking facility brings the capacity for parking at the station to nearly 8,000 spaces. The facility is six bays wide with a centrally located two-way double-threaded circulation system poised to easily handle the high peak hour traffic volumes demanded by this busy commuter rail station. Large pedestrian flows are funneled through a spacious stair/elevator tower with two high-speed traction elevators. High 12'-0" floor-to-floor heights and extensive use of glass in the stair/elevator tower provide an "open" feeling increasing pedestrian perception of comfort and security.

This facility represents Washington Metro Area Transit's (WMATA) first experience with the design-build project delivery system. With much at stake, the facility opened on schedule in January 2001, only 17 months after the notice to proceed was given. Precast, prestressed concrete was selected for its speed of construction, as well as its long-term durability and low maintenance.

Shady Grove Metro Station

GAITHERSBURG, MD



FIRM
Walker Parking Consultants

CONTRACT VALUE
$22.8 million

COMPLETION DATE
2003

OWNER
WMATA

PARKING SPACES
2,140

The Shady Grove Metro Station is located on the northwest leg of the Washington Metropolitan Area Transit's (WMATA) Red Line. The terminus station on the Red Line was experiencing a significant increase in parking demand as a 200 space shortage existed in 1998. Montgomery County and WMATA officials therefore decided it was time to construct a second garage at the facility. It was determined that a net increase of 1,500 parking spaces would be required to meet the parking demand of year 2010. In 2003, this 2,140 space, 7 level parking structure was opened providing the necessary spaces to meet current and future demands. The parking structure is four bays wide with a two-way single thread circulation system designed to handle the high peak hour traffic volumes.The architectural design intent of the new facility was to integrate visually with the existing environments, both natural and man-made, while maintaining architectural integrity and identity as a parking structure. The adjacent existing garage was a primary factor in determining the architectural character, materials, colors, and façade treatment of the new facility. Precast concrete was used in the parking structure for the durability derived through pre-stressing, stainless steel tee flange connections, high strength and low water-cement ratio. Additional measures taken were positive drainage, corrosion inhibiting admixtures and transverse post-tensioning of the precast tee flanges.

Grosvenor Metro Station

BETHESDA, MD

FIRM
Walker Parking Consultants

CONTRACT VALUE
$24.8 million

COMPLETION DATE
Spring 2004

OWNER
WMATA

PARKING SPACES
1,484

The Grosvenor Metro Station is located on the northwest leg of the Washington Metropolitan Area Transit's (WMATA) Red Line. The station was experiencing a significant increase in parking demand, and the local authorities were planning to add a concert hall to the adjacent site for performances by the Baltimore Symphony Orchestra. It was determined that approximately 1,800 parking spaces would be required to meet the parking demand. This 1,484 space, six level parking structure, combined with the available surface lot spaces, provide the necessary 1,800 spaces. The parking structure is four bays wide with a two-way single threaded circulation system designed to handle the high peak hour traffic volumes. Patrons traveling to the concert hall circulate through a pedestrian bridge that spans between the garage and the concert hall. The pedestrian bridge is 310' long x 16' wide. The architectural treatment of the parking facility reflects that of the new concert hall. The façade incorporates alternating brown and white precast spandrels to compliment the concert hall façade. Glass, also matching the concert hall, was used extensively in the pedestrian bridge, stair towers, and elevator towers to provide an "open" feeling, increasing pedestrian perception of comfort and security. Precast concrete was used in the parking structure for the durability derived through pre-stressing, stainless steel tee flange connections, high strength and low water-cement ratio. Additional measures taken were positive drainage, corrosion inhibiting admixtures and transverse post-tensioning of the precast tee flanges.

Franconia Springfield Metro Station

SPRINGFIELD, VA

FIRM
Walker Parking Consultants

CONTRACT VALUE
$12.3 million

COMPLETION DATE
2003

OWNER
WMATA

PARKING SPACES
1,050

The Franconia Springfield Metrorail Station anchors the south end of the blue line commuter rail from Washington, DC. The Station was experiencing a significant increase in parking demand and decided to add a horizontal expansion even though a 4,000 space parking facility was already on site. This 1,050 space, five level parking facility brings the capacity for parking at the station to nearly 5,200 spaces. The facility is four bays wide with a two way single-threaded circulation system designed to handle the high peak hour traffic volumes demanded by this busy commuter rail station. Both vehicular and pedestrian flows to the existing garage occur through a 30 foot wide bridge near the existing garages stair/elevator tower. Within each new stair tower, glass was used extensively to provide an "open" feeling increasing pedestrian perception of comfort and security. This facility represents Washington Metro Area Transit's (WMATA) second experience with the design-build project delivery system. Walker and the contractor were part of the first and this second design-build WMATA project. The facility opened in summer of 2003, only 20 months after the notice to proceed was given. Significant design issues included the successful resolution of dissimilar fire ratings for the original garage and the expansion, incorporating a car/small bus drop off area within the garage, utility constraints, phased demolition of tieback walls and a tight site. Precast, prestressed concrete was selected for its speed of construction, as well as its long-term durability and low maintenance. The durability of the precast concrete is derived through pre-stressing, stainless steel tee flange connections, high strength and low water-cement ratio. Additional measures taken were positive drainage, corrosion inhibiting admixtures and transverse post-tensioning of the precast tee flanges.

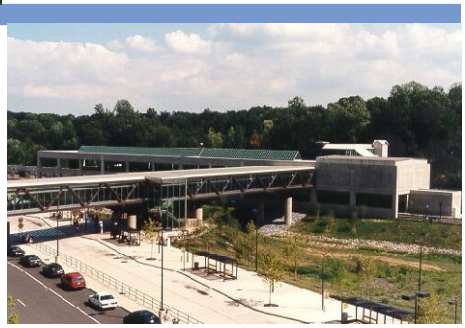
Franconia Springfield Transportation and Metro Rail Lane

FAIRFAX COUNTY, VIRGINIA

FIRM
Dewberry

OWNER
WMATA

PARKING SPACES
3,900



Dewberry designed the extension of the Metro system into Springfield. The station and track, originally designed by Dewberry in 1983, were redesigned in order to preserve wetlands, to account for the final Franconia-Springfield Parkway alignment, and to incorporate major Fairfax County Transportation Center facilities. The transportation center includes a six-level, approximately 3,900 space parking structure; a center platform station with mezzanine above the platform; a 300 linear-foot pedestrian bridge connecting the garage to the station; 2 traction power substations; a tie breaker station; 100 kiss-and-ride spaces; 10 high-occupancy vehicle spaces; and 8 bus bays. Final design documents were prepared for both precast and cast-in-place post-tensioned alternatives for the parking garage. These facilities also serve the proposed Virginia Railway Express station located adjacent to the Metro Rail station. Design and construction involved multiple bid packages and was accomplished under WMATA and Fairfax County's "fast-tracked" process.

Fidelity Investments

MERRIMACK, NH AND MARLBOROUGH, MA

FIRM
Dewberry

OWNER
Fidelity Investments

PARKING SPACES
3,750

Dewberry has been responsible for the design of five parking garage structures for Fidelity, including: two 900 car and one 1,100 car garage in Merrimack, New Hampshire, and one 850 car and one 900 car garage in Marlborough, Massachusetts. In all cases, the designs reflect sensitivity to and integration with the landscaped campus sites by reducing the structures' visual impact from adjacent office buildings, streets and internal access roads.

The above-ground structural elements of these garages consist of precast concrete, with wall surfaces of textured and articulated colored concrete. The precast concrete elements produce an attractive design that is durable and cost-effective, and the modular components facilitate quick construction. Access stairs are located in the corners and are protected by factory-finished metal canopies. Foundations are conventional spread footings. Dewberry also provided designs for the required lighting, fire protection, and security systems. The designs provide for snow removal from the top decks, and allow integration with underground obstructions such as existing primary electric service duct banks and communication cables.

Woodbridge Commuter Rail Station

PRINCE WILLIAM COUNTY, VIRGINIA

FIRM
Dewberry

OWNER
Prince William County Department of Public Works

PARKING SPACES
584

The initial project consisted of comprehensive site development for a new Virginia Railway Express commuter rail station. Specific on-site elements of the project included a station house with an access platform, a 584 space parking garage, a station access road, bus and kiss-and-ride drop-off areas, and two stormwater management and best management practice detention ponds. Off-site improvements included relocating Dawson Beach Road and replacing the Richmond, Fredericksburg, and Potomac (RF&P) at-grade crossing with a bridge overpass, widening Dawson Beach Road from two lanes to four lanes within the project limits, and a new signalized intersection with US Route 1 and VA Route 253 (Occoquan Road).

This "fast-track" project was funded by Prince William County, the Industrial Revenue Authority, and Virginia Properties Associates, Inc. Virginia Properties was responsible for funding the station house and parking garage design and construction. Dewberry also provided right-of-way plats; coordination of the test boring program and foundation report; and construction engineering services for the bridge, station house, and parking garage. Phase 2 of the project adds 150 additional surface parking spaces, north of the existing parking structure. Phase 3 of the project includes a 600 linear-foot station platform and a 150 linear-foot pedestrian bridge over the CSX tracks linking the new platform to the existing parking structure and station house. This will involve relocation of existing CSX tracks to meet intertrack fencing requirements. Kiss-and-ride access to the proposed platform is planned with adjacent US Route 1 improvements to be completed in a separate project.